

Vanity versus art: Exploring the effects on Instagram self-presentation

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Statement of Sources

I declare that this report is my own original work and that contributions of others have been duly acknowledged.

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Date

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Abstract

Instagram is a popular photo sharing application that enables users to present images, with the opportunity to strategically present themselves. This study examined the effects of personality traits on the congruency of individual's self-presentation on Instagram. Congruency of self-presentation is encouraged for positive effects on psychological well-being. The influence of exhibitionism, drive, social desirability, conformity, appreciation of beauty, grandiose and vulnerable narcissism were examined. 175 Instagram users, including both students and community members completed the anonymous online survey. The sample was predominantly female however, gender was found to have no effect on variables. Results of the regression analysis indicated that grandiose narcissism was a significant predictor of congruent self-presentation, whereas vulnerable narcissism and appreciation of beauty were significant predictors of decreased congruency. Results indicated exhibitionism, drive, conformity and social desirability did not influence self-presentation. Furthermore, grandiose and vulnerable narcissism were not significant moderators of the relationship between predictors and self-presentation. Content-based frequencies indicated a high percentage of users post to show and share images with an audience. Limitations of the study include self-report measures and cross-sectional design. Implications include identifying an alternative influence of artistic traits of Instagram users, and challenging the negative stereotyping of young Millennials and Instagram.

The world-wide web has revolutionised modern social interactions, transforming communications from print on paper to the dynamic environment of social media (Liu & Baumeister, 2016). With one billion people using Facebook in a single day (Facebook, 2015), the rising popularity of social networking sites (SNSs) is evident. Like any social trend, SNSs have experienced both criticism and praise (Smith, 2014). Early critics thought SNS use would create shallow interpersonal relationships appealing only to the vain and self-promoting personality types (Buffardi & Campbell, 2008). It was suggested the use of SNSs was rising amongst younger adults along with their narcissistic tendencies (Kwon & Wen, 2010). Although there is a public negative stereotyping of young female Instagram users, an alternative view suggests that some individuals share on visually based SNSs for artistic expression (Murray, 2015). Studies of how accurately individuals portray themselves online have demonstrated conflicting results (Bergman, Fearington, Davenport, & Bergman, 2011; Seidman, 2013). Given that persistent false self-presentation is associated with decreased psychological well-being (Grieve & Watkinson, 2016), research into the predictors of self-presentation is valuable to promote congruency online. The aim of the current study was to examine the congruency of individual's self-presentation on Instagram, and the influence of vanity, art, and narcissism.

Using Instagram

The Millennial generation (those born between 1982 - 2002) are identified as the largest user demographic engaging in social networking applications (Smith, 2014). Applications are the platforms developed to offer users a variety of communication mediums, including text based, video, images, and short messaging services. The Instagram application (app) has been identified as one of the fastest

growing SNSs globally (Chaffey, 2017) and currently boasts a community of over 800 million users worldwide (Instagram, 2017). Instagram largely attracts a younger female demographic, with 68% of users identifying as female, and 90% as under 35 years of age (Smith, 2014). The app describes itself as a hub for telling one's own story with a single image and limited text focus (Instagram, 2017). According to Instagram (2017), typical behaviours of its users include creating personal profiles, 'following' people of interest and inviting other users to 'follow' them. The Instagram audience express their favour of content through 'likes', and 'hashtags', and the ability to share liked items with others.

A well-established framework for analysing media consumption is that of uses and gratifications theory (U & G; Katz, Blumler, & Gurevitch, 1974; Pittman & Reich, 2016; Ruggiero, 2000; Sundar & Limperos, 2013). Katz et al. posed that an individual's characteristics and gratification needs motivate their choices of media, and methods of communication. A study of 239 participants, applied U & G theory to Instagram use (Sheldon & Bryant, 2016). Four motivational factors were identified including surveillance of others, documentation, coolness, and creativity. Sheldon and Bryant found that users seeking the gratification of surveillance would be motivated to choose visually based Instagram over a text based SNS. Documentation, similarly identified as archiving one's life (Lee, Lee, Moon, & Sung, 2015), is a commonly identified reason for Instagram use (Sundar & Limperos, 2013). Coolness and creativity motives however, represent novel gratifications being sought by the new younger generation (Sheldon & Bryant, 2016).

Sheldon and Bryant (2016) identified coolness and creativity as new motives for Instagram use in comparison with previous findings (Lee et al., 2015) in an older sample of participants where the mean age was 29 years ($SD = 10.95$). The

difference in motives found by Sheldon and Bryant could be explained by the younger age of students in their sample ($M = 22.6$ years, $SD = 5.27$). Older individuals in their early thirties as in the Lee et al. study, are seeking relaxation from life stressors and reality, engaging in SNSs as a form of escapism (Sundar & Limperos, 2013). Whereas young ‘emerging’ adults (Arnett, 2015), as in the Sheldon and Bryant findings, are exploring their self-concept and modifying their identity through the approval of peers. Managing how users appear to others, is identified as a popular goal of visually based SNSs (Ruggiero, 2000; Sundar & Limperos, 2013). The motive of coolness has likely emerged as a new gratification due to companies like Apple increasing the allure of mobile devices from which users can present as cool and distinctive (Sundar & Limperos, 2013).

A study of 212 Instagram users (Lee et al., 2015) aged 20-39 years ($M = 29.0$ years), identified five key reasons for Instagram use: social interaction, archiving, self-expression, escapism, and peeking. The dominant motive of social interaction in this age group ($M = 29.0$ years), including maintaining relationships, and using Instagram to be like others, is in line with Erikson’s (1968) psychosocial theory. Erikson describes adults in their late twenties as fighting isolation and seeking intimacy through romantic relationships and friendships. Results indicating social interaction as a significant motivator for SNSs use, supports earlier research on the social connectedness, and perceived social support derived from Facebook use (Grieve, Indian, Witteveen, Tolan, & Marrington, 2013; Indian & Grieve; 2014). The identified motives of archiving and peeking (Lee et al., 2015) are in line with previous findings of documentation and surveillance motives (Sheldon & Bryant, 2016).

The self-expression factor identified by Lee et al. identifies the unique appeal of the Instagram app versus text based mediums, that of the visual focus. When discussing self-expression on Instagram, the users in this sample (Lee et al., 2015) highlighted the need to be noticed by people, to show off, and the need to express their actual self (Lee et al., 2015). Instagram users of the Lee et al study, described Instagram as an empowering method of self-expression. Overall, with three factors accounting for the highest portion of variance, Lee et al. (2015) reported the significant reason Instagram users share pictures is to predominantly facilitate social interaction, followed by the desire to archive their lives, and express their actual self.

The Lee et al. (2015) study is limited by exclusions applied to the target population; participants under 20 years and aged over 39 years were excluded from the study. Population sampling like this introduces the potential effects of bias and limits the generalisability of the findings beyond the relative population sampled (Dunn, 2013). In the Lee et al. study, the predetermined age of participants to be included, ensured ages outside the range had a zero probability of participation, therefore conclusions drawn from the study may mistakenly be attributed to the variables under study and overlook potential characteristics of the restricted sample (Dunn, 2013).

In contrast with both Sheldon and Bryant (2016), and Lee et al., (2015), a study of Korean Instagram users identified Instagram's role in facilitating users' self-presentation and self-promotion (Moon et al., 2016), rather than its utility for social interaction and support. Individuals higher in trait narcissism were identified as spending more time on Instagram (Moon et al., 2016). Results of the Moon et al. study associated higher levels of grandiose exhibitionism with higher frequency of

selfie posting and profile picture updates on Instagram. The findings of Moon et al., highlight the utility of Instagram in presenting oneself in a self-promotional manner.

True Self-presentation

An investigation into online self-presentation must acknowledge the presence and role of an imagined audience (Marwick & Boyd, 2011). The effects of an audience can be broadly examined using the sociological perspective of Goffman (1959). According to Goffman all individuals wear masks, and interpersonal interactions are like a theatrical play. Goffman described interpersonal communications as a cycle of giving and receiving cues and feedback which causes an individual to self-monitor and adjust behaviours. Although Goffman's theory was developed on face-to-face interactions, it is established that the framework of self-presentation construction (Leary & Kowalski, 1990) transfers to the cyberpsychology environment (Stanculescu, 2011).

Research identified a trend of strategic or manipulated self-presentation on SNSs (Bergman et al., 2011; Yang & Brown, 2016). Recent research found Instagram users engage in like seeking behaviours to expand admiration amongst followers (Dumas, Maxwell-Smith, Davis, & Giulietti, 2017). Instagram encourages users to regularly post pictures of themselves, friends, and their activities, and sells itself as a convenient method of presenting one's self concept and experiences to a large audience in real time (Instagram, 2017). SNS users can feel highly monitored, feeling pressure to portray a positive, and socially desirable face online (Stanculescu, 2011). Individuals are influenced by their level of desire for peer similarity, resulting in the internalisation of social contexts (Stanculescu, 2011). This feeling of pressure is associated with increased deviations from true self-presentation (Gil-Or, Lev-Belz, & Turel, 2015). Internalisation of what is currently on trend socially would explain

the exhibitionistic nature and growing number of selfies on Instagram (Moon, Lee, Lee, Choi, & Sung, 2016; Ridgway & Clayton, 2016).

Mastery of psychosocial stages (Erikson, 1968) may also affect the way in which individuals manage self-presentation online, given that young adults (19 – 22 years) are identified as the dominant SNSs demographic (Bergman et al., 2011; Seidman, 2013; Sheldon & Bryant, 2016). Erikson describes this age group as grappling with challenges of identity and role confusion. If self-identity is under construction at this age (Fisher, Boland, & Lyytinen, 2016) it follows that this demographic of users recorded fluctuations in congruency of self-presentation (Yang & Brown, 2016). It is important to note that whilst Erikson identified an age range for stages, he also described identity formation as a lifelong social process. Erikson did not describe a definitive point for completing stages, rather more like a continuum an individual is pushed along by social norms and experience. In addition, SNSs use providing feedback from friends and followers, is said to inform the ongoing construction of one's self concept in a type of feedback loop (Fisher et al., 2016). It is then cautious to reflect on the concept of a users' identity and the proceeding self-presentation online through this loop, as a fluid and evaluative social process (Yang & Brown, 2016).

Delayed consumption explains how the posting of images to a distant audience, as with Instagram, offers a feedback safety net some individuals prefer (Liu & Baumeister, 2016). Delayed consumption refers to the potential time lapse between posting costing and receiving feedback on social media (Liu & Baumeister, 2016). Research has found that socially anxious or shy individuals find it easier to interact online, as opposed to face-to-face (Indian & Grieve, 2014). With the absence of an immediate audience, Instagram could then be considered as a positive

facilitator of true self-expression for some individuals. The fact that individuals can post photos to Instagram and not receive immediate face-to-face feedback, could create an easing of anxiety around true self-presentation. Another potential appeal of delayed consumption for SNSs users may be the relaxing of face to face social inhibitions, and therefore an increased feeling of control over one's environment (Stanculescu, 2011).

When it comes to manipulated self-presentation on SNSs, outcomes vary dependent on the degree and persistence of falseness (Bergman et al., 2011; Reinecke & Trepte, 2016; Stanculescu, 2011). A small amount of manipulated self-presentation is considered an outlet for creativity (Murray, 2015), and self-enhanced presentation is further endorsed as healthy for expressing positive self-regard (Pelham & Hetts, 1999). In contrast, individuals who persistently present an online self vastly different to their true self are more vulnerable to negative affect (Grieve & Watkinson, 2016). Gil-or et al. (2015) also found that a high degree of falseness in self-presentation on Facebook was associated with a long-term increase in psychological vulnerabilities.

Despite the evidence for a trend of manipulated self-presentation (Dumas et al., 2017), Seidman (2013) suggests that although SNSs can be used as an avenue of experimenting with self-presentation, profiles are quite representative of users' true selves. A study of Facebook users found no trace of idealised self-presentation on user profiles (Back et al. 2010). Research has found that true self-presentation benefits SNS users through the attachments that congruency strengthens (Siedman, 2013), and through increased psychological well-being (Reinecke & Trepte, 2014).

Narcissism and Instagram

Narcissism is identified as a strong and significant predictor of social media use (Twenge & Campbell, 2009), and particularly Instagram (Moon et al., 2016). The relationship between narcissism and social media has been widely researched consistently finding narcissistic individuals engage in self-promotional behaviours (Moon et al., 2016), and place significant worth on projecting a positive image of themselves (Bergman et al., 2011). Broad trait Narcissism is characterised by extraversion, dominance and grandiosity (Miller & Campbell, 2008). Narcissists are described as having a preoccupation with themselves (Dickinson & Pincus, 2003).

Highlighting the complexity of trait narcissism however, research has found correlations with both high self-esteem and the instability of self-esteem (Liu & Baumeister, 2016). This complex range of narcissistic behaviours has created the need for differentiation between two sub-types: grandiose narcissism and vulnerable narcissism (Miller et al., 2011). According to Miller et al. (2011), both sub-types are self-absorbed and tend to behave in an antagonistic manner. However, there are key differences including their correlations with extraversion and neuroticism (Miller et al., 2011). Grandiose narcissism is characterised by the key traits of aggression, dominance, and extraversion (Miller et al., 2011). Whereas vulnerable narcissism negatively correlates with extraversion and is characterised by a defensive insecure grandiosity, hiding feelings of inadequacy and incompetence (Miller et al., 2011). Unlike their grandiose counterparts, vulnerable narcissists are described as inherently hypersensitive, inhibited and more likely to suffer from anxiety and depression (Miller et al., 2011). The manifestations of narcissism are complex (Dickinson & Pincus, 2003), and unreliability is often present in the conceptualisations and

assessments of narcissism (Miller & Campbell, 2008). Irregularities likely reflect the lack of distinction between subtypes (Miller et al., 2011).

A broad trait of narcissism has been employed in social media research (Buffardi & Campbell, 2008; Bergman et al., 2011; Moon et al., 2016), detrimentally neglecting this variance in manifestations, and resulted in inconsistent findings (Bergman et al., 2011; Moon et al., 2016). The dominant limitation of Bergman et al., lies in its broad discussion of narcissism relating to the typical presentation of a grandiose, inflated self-concept (Buffardi & Campbell, 2008), with no discussion of the alternative covert presentations. Moon et al. (2016), also explored the relationship between broad trait narcissism and selfie postings, and found inconsistent results. From this research, the need to differentiate between the two presentations of narcissism is identified, and can be enacted by commissioning two separate scales to measure distinct subtypes, as opposed to measuring narcissism as a single construct.

A recent study found Instagram use encourages deceptive and narcissistic tendencies through competition for likes amongst users (Dumas et al., 2017). Narcissists are attracted to social media for the self-enhancing bias and increased level of control over self-presentation (Buffardi & Campbell, 2008). Higher levels of grandiose narcissism are associated with exhibitionism, self-promotional behaviours, and expression of a distorted self-concept on Instagram (Moon et al., 2016). Unlike grandiose narcissists who experience high self-belief (Miller et al., 2011), vulnerable narcissists rely heavily on reactions from others to evaluate themselves (Kealy & Rasmussen, 2012), with evaluations actively informing and altering their self-presentation in social interaction (Hart, Adams, Burton, & Tortoriello, 2017). To date no research has examined the role of grandiose and vulnerable narcissistic tendencies

in either strengthening or weakening the likelihood of true self-presentation on Instagram.

Vanity and Self-promotion versus Art

Self-promotion is declared a highly popular reason for Instagram use (Sheldon & Bryant, 2016), and is evident in the volume of selfie content posted (Ridgway & Clayton, 2016). Moon et al. states that half of uploaded photos on Instagram are categorised as selfies; a self-portrait photograph that one has taken of oneself. Instagram use increases self-promotional behaviour and triggers competition with the app's high focus on selfies, hashtags and likes (Sheldon & Bryant, 2016). Given these entertainment expectations constructed by the Instagram community, it follows that users would more likely share images which depict an individual that is social, fun and attractive. Drawing on the theory of Seidman (2013) where SNS profiles reflect accuracy, it is not implied that vain images are false, but rather the result of an implicit internalisation of social norms (Stanculescu, 2011). Selfies observed in popular Instagram media are then likely a reflection of the confidence that SNS use has created in users empowering people to self-promote without reservation.

In defiance of this self-promoting narrative there is evidence that suggests young women particularly, are seeking to challenge gender stereotypes (Oberst, Renau, Chamarro, & Carbonell, 2016) and express themselves artistically through Instagram (Murray, 2015). In a qualitative research piece, Murray contests the negative stigma surrounding the 'female selfie' and challenges society's automatic labelling of selfies as vain, consumerist, and tacky. Photographers and political activists are using Instagram to challenge the hyperfeminine message that the female image is produced purely for the male gaze (Murray, 2015). Murray suggests a non-

conformist and artistic motivation is at play, as documented in users producing an Instagram persona that is socially bolder than their everyday self.

Individuals who post for expression versus promotion, are seeking to challenge conformity by creating an online presence which embraces body-positive attitudes, artistic beauty, and uniqueness (Murray, 2015). This concept of uniqueness contrasts with the internalisation of social norms and entertainment expectancies predicted in those who post for self-promotion. In relation to congruency of self-presentation, wider gaps between the true self and the online self are predicted in those who are actively challenge society and gender stereotypes on social media (Oberst et al., 2016). The act of contesting gender expectations challenges an individual's gender stereotype (Oosten, Vandenbosch, & Peter, 2017), and childhood gender schemas (Bem, 1981) it follows that gaps could emerge in self-presentation.

Individual goals on Instagram and the choice of content that users display, raises the question then of whether users are motivated by vanity or art. Vanity in an online SNSs context could be described as a competition amongst individuals to display themselves, and present an online self that is perceived as socially desirable (Bergman et al., 2011; Murray, 2015), and part of the larger group (Stanculescu, 2011). In contrast to vanity, art could be described as the contesting of social norms, and the empowering endorsement of an individual's statement using our mobile device culture (Lee, 2005).

The Current Study

In summary, Millennials are heavily using Instagram for self-expression, interaction, documentation, and self-promotion (Lee et al., 2015; Sheldon & Bryant, 2016). The association of narcissism and SNSs has been established (Bergman et al., 2011; Dumas et al., 2017; Moon et al., 2016), however the conceptualisation of

narcissism as a single construct (e.g. Miller et al., 2011) has led to irregularities in patterns of findings (Bergman et al., 2011, Moon et al., 2016). Emphasis on the current generation's tendency for exhibitionistic, and self-promotional behaviour pervades much of social media research (Bergman et al., 2011; Sheldon & Bryant, 2016). However, qualitative work has indicated alternative goals of Instagram users, such as artistic and personal expression (Murray, 2015). The broad aim of the current study was therefore to explore Instagram self-presentation and the power of the potentially competing influences of vanity versus art.

Despite the suggested credibility of Instagram images over text based sharing (Lee et al., 2015), Sheldon and Bryant (2016) insist there is a strong culture of photo manipulation on Instagram. However, to date, the difference between the true self and the self-presented on Instagram is yet to be empirically assessed. The current study aimed to overcome this gap in the literature by calculating Euclidean distances between the true self and the Instagram self to allow the congruence between the two selves to be quantified. This approach has previously been employed to measure authenticity in self-presentation in a group of Facebook users (Grieve & Watkinson, 2016).

Building on earlier research associating narcissism with photo manipulation and self-promotion (Sheldon & Bryant, 2016), but mindful of the as yet to be investigated role of the vulnerable narcissism subtype, this study also aimed to explicitly investigate both grandiose and vulnerable narcissism in self-presentation on Instagram.

Grandiose narcissism is associated with an inflated self-view (Miller & Campbell, 2008), whereas vulnerable narcissism is characterised by uncertainty of beliefs and attitudes (Kealy & Rasmussen, 2012) and contingent self-esteem (Pincus,

2009). It was therefore hypothesised that higher levels of grandiose narcissism would predict greater congruency in self-presentation between the true self and the Instagram self. In contrast, it was hypothesised that higher levels of vulnerable narcissism would predict reduced congruency of self-presentation between the Instagram self and the true self.

Drawing on this artistic narrative (Murray, 2015; Lee, 2005) contesting the larger Instagram trend, art was conceptualised by scores on conformity and appreciation of aesthetic beauty. It was hypothesised that higher levels of appreciation of beauty and lower levels of conformity would predict a decreased congruency of self-presentation. Following research which emphasised the self-promoting nature of Instagram users and the association with competition (Dumas et al., 2017), and the internalising of social norms on SNSs (Stanculescu, 2011), vanity was conceptualised by exhibitionism, drive, and social desirability. It was hypothesised that higher scores on exhibitionism, drive and social desirability would increase the congruency of self-presentation.

Narcissism was found to influence the frequency of exhibitionistic behaviours on Instagram including the portion of selfies posted (Moon et al., 2016), and increase the likelihood of assertive self-presentation strategies on SNSs (Hart et al., 2017). As a moderator grandiose narcissism was then considered significantly influential over other personality traits. It was hypothesised that grandiose narcissism would moderate the effects of drive, exhibitionism, and social desirability on self-presentation by increasing the strength of their effect. In contrast, vulnerable narcissisms' concern over insecurities increases defensive self-presentation behaviours (Hart et al., 2017). It was hypothesised that vulnerable narcissism would

moderate conformity and appreciation of beauty's influence on self-presentation by decreasing the strength of their effect.

Finally, mindful that Murray's (2015) qualitative study identified a range of social media use motivations that had not been previously considered, it would be prudent to allow participants to report explicitly on what they identified as motivations for using Instagram, therefore an open-ended question was also included, to allow analysis of content-based frequencies.

Method

Participants

The final sample consisted of 175 participants who identified as females ($N=146$), males ($N=27$), and other gender ($N=2$). Participants were aged between 18 and 49 years ($M=22.14$ years, $SD=5.76$). Participants needed to be 18 years and over and a current Instagram user to take part in the study.

Design and Analytical Approach

A Cross-sectional design was used. Participants completed the study via an anonymous online questionnaire. Drawing on existing Facebook research (Grieve & Watkinson, 2016) congruency of self-presentation was quantified by calculating the Euclidean distance (Mahar et al., 2006) between scores on the true self personality questionnaire and scores on the modified Instagram personality questionnaire. Euclidean distance is calculated by the summation of squared distances between the items as per Equation 1. where a , b , c , etc., represents items scores on the two vectors whose distance is being calculated.

$$\text{distance} = \sqrt{(a_1 - a_2)^2 + (b_1 - b_2)^2 + (c_1 - c_2)^2 \dots \text{etc.}} \quad (1)$$

A multiple regression using the enter method was used to examine whether scores of social desirability, exhibitionism, drive, appreciation of beauty, conformity, grandiose narcissism, and vulnerable narcissism, predicted the measure of self-presentation. Moderation analysis (Hayes, 2013) examined whether grandiose and vulnerable narcissism moderated the relationship between the predictors and self-presentation. This moderation effect is also known as interaction (Hayes, 2013). The custom dialog box PROCESS, was downloaded and added to SPSS to perform analyses. Model 1 was selected along with Johnson-Neyman (1936), and the option to generate data for plotting. To further unpack the motivations of Instagram use, content based frequencies will be summed from a single open-ended question enquiring on the participants reasons for using Instagram. This count of observed frequencies is not intended to be a qualitative analysis.

A priori power analysis. To give sufficient power to the regression analysis Green's (1991) formula ($N = 104 + k$, where k equals number of predictors) was applied. The study consisted of seven predictor variables, therefore a minimum of 111 participants were required. This requirement was met ($N = 175$).

Materials

Copies of all items are presented in the Appendices.

Demographic information. Participants completed questions denoting their gender, age, current Instagram user status, how much time spent on Instagram each day, how often they post content, and an open-ended response for why they use Instagram.

True Self. The HEXACO-60 (Ashton & Lee, 2009) was used to measure participant's true self. Previous research used this measure (Grieve & Watkinson, 2016), given its proven validity. With 60 items, the inventory includes six subscales

measuring the factors of personality: honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness. Reliability of the HEXACO-60 subscales is adequate to good with Chronbach's alpha coefficients ranging from 0.73 to 0.80 (Ashton & Lee, 2009). Sample items for each factor included "I wouldn't pretend to like someone just to get that person to do favours for me" (honesty-humility); "I would feel afraid if I had to travel in bad weather conditions" (emotionality); "The first thing that I always do in a new place is to make friends" (extraversion); "Most people tend to get angry more quickly than I do" (agreeableness); "I like people who have unconventional views" (openness). Participants responded to items using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Each subscale includes reversed score items. Items are summed so that higher scores indicate higher levels of each factor.

The Instagram Self. A modified version of the HEXACO-60 (Ashton & Lee, 2009) assessed the Instagram self. As per the modified for Facebook version used in previous research (Grieve & Watkinson, 2016), items were modified to refer to participants persona as presented on Instagram. Again, six subscales with 10-items each measuring the personality factors (honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness). As per the true self measures, marked items were reversed. Participants responded on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Sample items included "Having a lot of money is not especially important to the persona I present on Instagram" (honesty-humility), and "On most days, the persona I present on Instagram feels cheerful and optimistic" (extraversion).

Social Desirability. A short 13 item version of the Marlowe Crowne Social Desirability Scale (Reynolds, 1982) assessed the level of social desirability an

individual adheres to. The full original scale recorded high concurrent validity as established through correlations with the Minnesota Multiphasic Personality Inventory validity scales (Crowne & Marlowe, 1960). The 13-item version was described as a viable substitute for the full scale (Reynolds, 1982) with good internal reliability ($KR20 = 0.83$; Gross, Wolanin, Pess, & Hong, 2017). A dichotomous response format (T = true, F = false) was used. Items are keyed true or keyed false. A sample item includes “No matter who I’m talking to, I’m always a good listener”. High scores reflect the individual’s effort to present in a socially desirable manner (Lambert, Arbuckle, & Holden, 2016).

Exhibitionism. Items were drawn from the International Personality Item Pool (Goldberg, 2006) to measure exhibitionism. A 5-point Likert scale was used for self-reporting (1 = strongly disagree, 5 = strongly agree). A sample item included “I like to attract attention”. Items 4, 5, and 6 were reversed scored as per scale instructions. In an analysis of personality traits (Salgado, Moscoso, & Alonso, 2013), exhibitionism items indicated very good reliability ($\alpha = 0.83$), and sound validity where exhibitionism correlated with sociability and gregariousness.

Drive. Items were drawn from the International Personality Item Pool (Goldberg, 2006) to measure drive. The four drive items from the IPIP reported on a 4-point Likert scale (1 = very true for me, 2 = somewhat true for me, 3 = somewhat false for me, 4 = very false for me). All items were reversed scored as per IPIP instructions, so that higher scores reflect higher levels of individual drive. A sample item included “When I want something I usually go all-out to get it”. A recent study utilising drive IPIP items (Siegling & Petrides, 2016), demonstrated good reliability ($\alpha = 0.77$), and both convergent and discriminant validity.

Appreciation of Beauty. Items were drawn from the International Personality Item Pool (Goldberg, 2006) to measure appreciation of beauty. The scale includes 8 items, one reverse scored as per IPIP instructions. A sample item included “I crave the experience of great art”. A 5-point Likert scale was used for self-reporting (1 = strongly disagree, 5 = strongly agree). A comparable analysis demonstrated good reliability ($\alpha = 0.77$) and concurrent validity with the Engagement with Beauty Scale (Diessner, Solom, Frost, Parsons, & Davidson, 2008).

Conformity. Items were drawn from the International Personality Item Pool (Goldberg, 2006) to measure conformity. 5 items were reverse scored as per IPIP instructions. A 5-point Likert scale was used for self-reporting (1 = strongly disagree, 5 = strongly agree). A sample item included “I conform to other’s opinions”. The conformity scale items demonstrated adequate reliability ($\alpha = 0.71$), and concurrent validity correlating with neuroticism and anxiety (Nagle & Anand, 2012).

Narcissism. The Dark Triad of Personality (D3-Short) narcissism subscale (Paulhus, 2013) was used to measure grandiose narcissism. Participants responded using a 5-point Likert scale (1= strongly disagree, 5 = strongly agree). The 9-item subscale contains 3 reversed scored items. Sample items include “Many group activities tend to be dull without me, and “I have been compared with famous people”. With a normative sample of 387 ($\alpha = .77$), the D3-Short is a reliable and valid measure of grandiose narcissism (Jones & Paulhus, 2014).

The 10 item Hypersensitive Narcissism Scale (Hendin & Cheek, 1997) was used to measure vulnerable narcissism. Items are answered on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). A sample item included “I often interpret the remarks of others in a personal way”. The scale measures adequate internal

consistency ($\alpha = 0.73$) and correlates with measures of neuroticism (Hart et al., 2017). Higher scores reflect higher levels of vulnerability and entitlement (Miller et al., 2011).

Procedure

This study was granted ethical approval from the Tasmanian Social Sciences Human Research Ethics Committee (approval number: H016598; see Appendix B). Participants were predominantly recruited from first year undergraduate students in the Psychology division at the University of Tasmania (UTAS). However, the survey was made available to the entire student body and the community to ensure a more representative sample. Following ethical approval, participants were recruited through posters (Appendix C), and short power point presentations at the university. Information given on the recruitment posters instructed potential participants to go to the survey link provided for further information.

Participant information sheet detailed the study and confirmed anonymity (Appendix D). Participants were instructed to select 'next' on the bottom of the page to provide consent. Participants could withdraw at any time throughout the study. Taking part was done so at the participants leisure and took approximately 45 minutes in total. At the close of the study, eligible students elected to receive course credit. All remaining participants were given the chance to win one of six gift vouchers valued at \$50.

Results

Data Screening and Assumption Testing

Data were screened to assess the meeting of multiple regression assumptions including multivariate outliers, univariate outliers, normality, linearity, homoscedasticity, independence of errors, multicollinearity, and sample size. To

assess multivariate outliers, Mahalanobis distance variable was computed. According to the critical chi-square distribution $\chi^2(7) = 18.48$, four multivariate outliers were identified (Tabachnick & Fidell, 2012). To assess the influence of these outliers, the regression was run with and without their inclusion. Given their reductive effect on the regression model, it was deemed suitable to remove the four outliers from the final analyses. To further reduce bias within the model, Case-wise diagnostics identified two outliers with a standardized residual > 3 (Wiggins, 2000), and as these two cases were deemed to exert undue influence on the results they were removed.

After removing extreme and unusual cases, the normality of the data was also assessed. Euclidean distance indicated skew of .208 ($SE = .184$). Exhibitionism was non-normally distributed with negative kurtosis of -.343 ($SE = .365$), and a bi-modal frequency distribution, with two univariate outliers which were not classed as extreme. Drive scores indicated positive kurtosis of .462 ($SE = .365$) and negative skew of -.117 ($SE = .184$). A frequency distribution indicated two low scoring non-extreme outliers. Conformity scores indicated slight skew of -.260 ($SE = .184$), a frequency histogram indicated a relatively normal distribution and one outlier scoring two standard deviations below the mean, however this outlier was not identified as extreme (Wiggins, 2000). Appreciation of beauty scores indicated slight skew of -.277 ($SE = .184$) and kurtosis of -.200 ($SE = .365$). A frequency histogram displayed a relatively normal distribution and one non-extreme outlier (Wiggins, 2000). A frequency histogram of vulnerable narcissism scores indicated a slightly platykurtic distribution with negative kurtosis of -.242 ($SE = .365$). Grandiose narcissism indicated a leptokurtic distribution with positive kurtosis of .500 ($SE = .365$). Two outliers were identified at both the low and high end of scores. Identified

outliers were retained within the analyses, given the minimal number in relation to the sample size (Wiggins, 2000).

Simple scatterplots were created to assess the relationships of the Euclidean distance variable and each individual predictor. Results of scatterplots indicated a linear relationship, therefore the linearity assumption was met. A plot of the residuals was also created with random arrangement indicating the homoscedasticity assumption was not violated. Durbin-Watson (1951) test statistic of 1.76 supported the independence of errors in the data. Multicollinearity was not present as correlations between predictors was not $>.80$, tolerance statistics were above $.2$, and variance inflation factors were well below 10 (highest VIF = 1.69; lowest tolerance = $.59$; Bowerman & O'Connell, 1990).

Previous research identified females as the major demographic for Instagram use (Smith, 2014), and that male and female engagement with Instagram differs (Murray, 2015; Liu & Baumeister, 2016). As the final sample was predominantly female (83%), to test for effects of gender on all predictors, and to determine whether males needed to be excluded from the analysis, multiple one-way ANOVA's were performed. Gender was analysed as three categories as per survey responses (male, female, other). ANOVA is described as less robust when group sizes are irregular (Lunney, 1970), as in the case of the current study where cells were uneven due to the number of cases in gender other ($N = 2$), and males ($N = 27$), in comparison with female cases ($N = 146$). Results indicated a non-significant small effect of gender on Euclidean distance, $F(2, 174) = 1.06, p = .347, \eta^2 = .01$. Further ANOVA's indicated non-significant small effects of gender on drive ($p = .395, \eta^2 = .01$), exhibitionism ($p = .211, \eta^2 = .01$), social desirability ($p = .147, \eta^2 = .02$), appreciation of beauty

($p = .637$, $\eta^2 = <.01$), conformity ($p = .119$, $\eta^2 = .02$), grandiose narcissism ($p = .105$, $\eta^2 = .02$), and vulnerable narcissism ($p = .940$, $\eta^2 = <.01$).

Descriptive Statistics

Descriptive statistics for all measures are presented in Table 1. The Euclidean distance scale mean and range was lower than findings in a study of Facebook users (Grieve & Watkinson, 2016). Exhibitionism items averaged slightly higher compared with extant literature (Salgado, Moscoso, & Alonso, 2013). The mean of appreciation of beauty items reflected a high level of appreciation in comparison with items of previous findings (Diessner, Solom, Frost, Parsons, & Davidson, 2008). The mean of grandiose narcissism and vulnerable narcissism scores were also consistent with existing literature (Jones & Paulhus, 2014; Sheldon & Bryant, 2016).

Cronbach's alpha was used to assess the internal reliability for all measures and are presented in Table 1. The dichotomous scores of the social desirability scale was tested using the Kuder-Richardson reliability index (KR20) as per the original literature (Crowne & Marlowe, 1960). Internal reliability of the short form scale was found to be lower than recent research (Gross, Wolanin, Pess, & Hong, 2017) but consistent with the earlier development of the MC-C (Reynolds, 1982). The internal reliabilities for grandiose narcissism and vulnerable narcissism were also in the low range, however this was acceptable and consistent with the range found in previous findings (Sheldon & Bryant, 2016). Exhibitionism internal reliability was good and improved on previous literature (Salgado et al., 2013). Internal reliability of the drive scale was adequate when compared with previous studies (Hart et al., 2017). Conformity reliability was good and consistent with previous research (Goldberg, 2006). Internal reliability of the appreciation of beauty scale was good and within the range of previous findings (Diessner et al., 2008).

Table 1

Descriptive Statistics and Internal Reliabilities of Predictors and Self-presentation

	<i>M(SD)</i>	95% CI	α
Euclidean Distance	3.24 (0.99)	3.10, 3.99	0.82
Grandiose Narcissism	23.08(4.71)	22.38, 23.78	0.70
Vulnerable Narcissism	28.54(4.94)	27.80, 29.27	0.69
Drive	10.79(2.31)	10.44, 11.13	0.80
Exhibitionism	15.75(4.51)	15.08, 16.43	0.87
Appreciation of Beauty	27.61 (5.03)	26.86, 28.36	0.76
Conformity	25.83 (5.00)	25.09, 26.58	0.77
Social Desirability	6.84 (2.64)	6.45, 7.23	0.64

Note. CI = confidence interval.

Correlations between predicted variables are presented in Table 2. Drive and exhibitionism demonstrated a strong positive correlation with grandiose narcissism. Conformity demonstrated a strong positive correlation with vulnerable narcissism. Social desirability did not correlate with grandiose narcissism, rather a strong negative correlation with vulnerable narcissism. Appreciation of beauty did not correlate with vulnerable narcissism, but rather demonstrating a medium strength positive correlation with drive.

Table 2

Summary of Bivariate Correlations of Predictors and Self-presentation

	1	2	3	4	5	6	7	8
1. EUC	1.000							
2. GN	-.193**	1.000						
3. VN	.358***	.000	1.000					
4. DRI	-.055	.328***	.051	1.000				
5. EXH	-.078	.587***	.050	.298***	1.000			
6. APB	.019	.276***	-.158	.288***	.129*	1.000		
7. CON	.135*	-.101	.359***	-.119	.009	-.170*	1.000	
8. SOC	-.176*	.014	-.439***	-.038	-.163	.194**	-.297***	1.000

Note. * denotes $p < 0.05$; ** denotes $p < 0.01$; *** denotes $p < 0.001$. EUC = Euclidean distance; GN = Grandiose Narcissism; VN = Vulnerable Narcissism; DRI = Drive; EXH = Exhibitionism; APB = Appreciation of Beauty; CON = Conformity; SOC = Social Desirability.

Inferential Statistics

To examine the self-presentation of Instagram users, the Euclidean distance was computed between participants' everyday self and the persona they presented on Instagram. The calculation measured the distance between the HEXACO-60 (Ashton & Lee, 2009), and the HEXACO-60 modified for Instagram use, by calculating the square root of the difference at each item squared. Lower scores on the Euclidean distance scale indicated a greater congruency of self-presentation.

A multiple regression analysis was conducted to examine the relationship between drive, exhibitionism, social desirability, conformity, appreciation of beauty, grandiose and vulnerable narcissism, and the Euclidean distance of self-presentation. Table 3 presents the results. The multiple regression model with all seven variables explained 18.8% of variance, $R = .43$, $F(7,167) = 5.53$, $p < .001$, $f^2 = 0.18$. This was a

small effect (Cohen, 1988). Significant predictors within the model included vulnerable narcissism, and the appreciation of beauty, of which higher scores in both increased the Euclidean distance. Grandiose narcissism was also a significant predictor, where higher scores decreased the Euclidean distance. The variables of drive, conformity, social desirability, and exhibitionism did not contribute significantly to the model.

Table 3.

Predictors of the Euclidean Distance of Difference in Self-presentation.

	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Constant	1.72	.838		2.06	.041
Grandiose Narcissism	-.050	.019	-.239	-2.64	.009
Vulnerable Narcissism	.075	.016	.372	4.58	$p < .001$
Drive	-.024	.033	-.056	-.72	.474
Exhibitionism	.007	.020	.032	.36	.716
Appreciation of Beauty	.032	.015	.161	2.11	.037
Conformity	-.003	.015	-.015	-.194	.846
Social Desirability	-.016	.030	-.042	-.52	.604

Note. Lower Euclidean distances indicate greater congruence between the everyday self and the Instagram self.

Moderation analysis was used to examine whether an individual's score of grandiose or vulnerable narcissism determined the strength of the relationship between predictor variables and self-presentation. Results indicated vulnerable narcissism influenced the relationship between appreciation of beauty and self-presentation $F(1,171) = 3.75, p = .054, \Delta R^2 = .020$, this was non-significant at the standard alpha level (.05). PROCESS results indicated that the relationship between appreciation of beauty and self-presentation was significant when vulnerable

narcissism scores were more than 1.07 standard deviations below the mean. A line graph of plotted means indicated that as vulnerable narcissism increased, the relationship between appreciation of beauty and self-presentation weakened. Vulnerable narcissism did not moderate the relationship between conformity and self-presentation $F(1,171) = 0.60, p = .808, \Delta R^2 = .001$.

PROCESS results indicated no moderating influence of grandiose narcissism over drive $F(1,171) = .40, p = .526, \Delta R^2 = .003$. The Johnson-Neyman (1936) technique within PROCESS revealed no statistically significant transition points in the data. No moderation of grandiose narcissism was found on exhibitionism $F(1,171) = .54, p = .465, \Delta R^2 = .003$. In plotting the PROCESS data, some moderating effect was present in the relationship between exhibitionism and self-presentation when levels of grandiose narcissism were one standard deviation above the mean. No moderating effect of grandiose narcissism over social desirability was found $F(1,171) = .09, p = .767, \Delta R^2 = .001$.

Content Based Analysis of Open Ended Questions

The frequency of certain words was summed to list the reasons individuals in the current study use Instagram. However, it is important to note that this content based frequency report is not intended as a qualitative analysis, but rather the frequency count provides a demonstration of the participants who use Instagram for similar reasons. In an open-ended response to the question “Why do use Instagram?” the words show, share, update others, or reach out were included by 60% of participants. The words art, photography, or creative, were used infrequently $f = 17$.

Discussion

The aim of the current study was to extend SNSs research into true self-presentation on Instagram and to explore the influence of vanity, art, and narcissism. Drawing on previous research, vanity was conceptualised as higher levels of grandiose narcissism, exhibitionism, drive, and social desirability (Lee et al., 2015; Moon et al., 2016). Art was conceptualised as appreciation of beauty and lower levels of conformity (Murray, 2015). Miller et al. (2011), identified two sub-types of narcissism those of grandiose and vulnerable, and demonstrated their differences in manifestation including grandiose narcissism's aggressive and dominant tendency and vulnerable narcissism's hypersensitivity. In the current study, participant levels of the two sub-types of narcissism were measured. As hypothesised grandiose narcissism significantly predicted a decrease in false self-presentation. In the opposing direction as hypothesised, vulnerable narcissism predicted an increase in false self-presentation. Appreciation of beauty also significantly predicted an increase in false self-presentation as hypothesised. Predictors of drive, exhibitionism, conformity, and social desirability did not significantly predict self-presentation. The moderating effect of narcissism was not found at a significant alpha level. Content-based frequencies indicated a high portion of Instagram users post images to show and share with an audience.

True self-presentation

Euclidean distance calculations indicated a difference between participants' true self and their self-presentation on Instagram. The Euclidean distance calculation has not been used in a sample of Instagram users before, however it was employed to examine self-presentation of Facebook users (Grieve & Watkinson, 2016). The current study found a reasonably low mean in comparison with this previous

Facebook study, however it must be considered that the lower difference in comparison, may reflect the effect of the users' medium of choice (visually based Instagram versus text and image based Facebook). In comparison with Facebook, Instagram is built on a strong visual focus which is associated with different user behaviours (Lee et al., 2015).

A social media user does not post content in isolation (Marwick & Boyd, 2011), rather a user creates images of themselves and their life knowing that the credibility of the image will be assessed by an audience (Marwick, 2015). With the identified goal of self-expression and presenting their actual self (Lee et al., 2015), it follows that Instagram users in the current study would express themselves in a truthful manner. Although research suggests a popular appeal of Instagram is the ability to manipulate images (Sheldon & Bryant, 2016), this is in direct contrast with the findings of the current study which demonstrated relative congruency between the everyday self and the Instagram self.

Open-ended responses of why the participant uses Instagram in the current study, provide a frequency count to consider alongside the effect of the imagined audience on SNSs (Marwick & Boyd, 2011). Responses describing individual's reasons included: "for fun, to gain followers", and "I want share my face with the world". 91 responses included the word share or show, and of the 84 remaining, 15 included the words update others or reach out. These findings are in line with Sheldon and Bryant (2016) who found appearing cool to an audience to be one of four main reasons for using Instagram amongst a comparable sample of participants.

The relatively low difference between the participants Instagram self and their everyday self in the current study may not reflect authenticity. Presentation of oneself is subject to positivity bias on both social media (Reinecke & Trepte, 2014),

and interpersonal interactions (Leary & Kowalski, 1990). Positivity bias in a social media setting refers to the popular preference for positivity, implicitly influencing individuals to present themselves in a positive light (Reinecke & Trepte, 2014). The positivity bias on social media is described as the larger audience's preference for content which includes positive authenticity over the authentic expression of negative self-aspects (Antheunis, Valkenburg, & Peter, 2010; Reinecke & Trepte, 2014). This positive preference is demonstrated in a Facebook study where favourable feedback was posted to optimistic updates rather than negative status updates (Reinecke & Trepte, 2014). Positivity bias is highly influential in novel environments (Leary & Kowalski, 1990) and when the audience consists of a larger number of new acquaintances (Yang & Brown, 2016); such as the first-year university environment of the current study's participants.

The Role of Narcissism

Results of the current study indicated the difference between the everyday self and the Instagram self was partially explained by an individual's self-reported narcissistic traits. By measuring the two sub-types of narcissism, both grandiose and vulnerable, the analysis managed to identify the opposing effects exerted by the two sub-types. The hypothesis that grandiose narcissism would increase the measure of true self-presentation was supported. In addition, the hypothesis that vulnerable narcissism would decrease the measure of true self-presentation was also supported.

Research into the fundamental characteristics of grandiose narcissism (Morf & Rhodewalt, 2001; Paulhus, 1998), may account for the reported congruency of self-presentation found in the current study. Grandiose Narcissists are described as extraverted, high in self-esteem, and immodest (Miller et al., 2011). Narcissism is typified by a pre-occupation of the self (Dickinson & Pincus, 2003), and grandiose

narcissism typified by being highly confident and resistant to image threat (Hart et al., 2017). A recent study found grandiose narcissism was unrelated to defensive self-presentation strategies and that higher levels of grandiose narcissism was associated with a lowered awareness of the negative appraisal of others (Hart et al., 2017). Considering the inflated intrapersonal focus associated with grandiose narcissism (Dickinson & Pincus, 2003; Miller & Campbell, 2008), the congruency found in the current study likely reflects this embedded distortion in self-concept influencing survey responses, rather than being evidence of authenticity.

When it comes to impression management, vulnerable narcissists have been found to engage in both assertive and defensive self-presentation tactics (Hart et al., 2017), with a larger focus on defensive tactics. Assertive tactic enhancement, is described as if an individual succeeds at something, they will over-exaggerate the importance of that task, and defensive tactics include apologies and excuse-making (Hart et al., 2017). Vulnerable narcissists are said to depend greatly on the opinions of others (Kealy & Rasmussen, 2012), and manipulate their personality and behaviour to gain external approval. Advertised features of the Instagram application include filters, and effects to alter images before posting (Instagram, 2017). It has been noted that narcissistic individuals engage in this enhancing behaviour on Instagram more than non-narcissistic individuals (Dumas et al., 2017; Sheldon & Bryant, 2016). An increased difference in self-presentation found in the current study is supported by findings of Hart et al. where vulnerable narcissists' fear of negative evaluations, were highly associated with the creation and defence of desirable images.

The lack of congruency in the current study by individuals reporting higher levels of vulnerable narcissism may also reflect the anxiety created by delayed

audience feedback (Liu & Baumeister, 2016). Vulnerable narcissists' report fearful and anxious attachment in relationships, heightened impression motivation, and rely greatly on the appraisal of others (Dickinson & Pincus, 2003; Hart et al., 2017; Kealy & Rasmussen, 2012). It follows that in the Instagram environment, where audience feedback is somewhat delayed in comparison to face to face interactions, individuals higher in vulnerable narcissism would hesitate to present their true self for fear of evaluation. This is consistent with findings of Gil-or et al. (2015), whereby individuals with fragile self-esteem and attachment difficulties recorded wider gaps between their true and their ideal self-presentation on social media.

Analysing how narcissism effects the difference in self-presentation creates questions about this sample of participants. It has been suggested that grandiose narcissism is associated with time spent on Instagram per day, along with frequency of updates to profiles (Moon et al., 2016). This may reflect familiarity with the app creating a sense of comfort and ease with sharing content. The distribution of the sample was analysed to ensure that the current sample was not over-representing Instagram users who engaged for more time. Results indicated a normal distribution of frequencies, with half of the sample using Instagram for 30 minutes or less per day and half of the sample using Instagram for over 30 minutes and up to 2 hours per day. In support of this an ANOVA of the relationship between time spent on Instagram and self-presentation revealed a non-significant effect. Therefore, time spent on Instagram per day was not found to be an influential factor.

Vanity versus Art

As hypothesised, results of the current study indicated that appreciation of beauty significantly predicted an increased difference between participants' true self and the persona they present on Instagram. The influence of an appreciation of

aesthetic beauty over the persona individuals present on Instagram is in line with Murray's (2015) qualitative work on SNSs, and highlights a personality factor which had not previously been explored in Instagram related research. This is an important finding, given the common negative discussion in the media around why young people use social media apps like Instagram (Vanian, 2017). This finding provides evidence to suggest an alternative creative demographic is drawn to Instagram use.

In support of these creative reasons, content-based frequency counts of the current study revealed that some participants operate an art only Instagram profile, posting purely to share their art to a larger audience. Responses noting the words art, or creativity included "I post my artwork on my dedicated art page", "I feel it's an appropriate platform to express my art", and "I post my art to put it out there". The genre of street art and graffiti has also found Instagram to be a facilitator of sharing their work and reaching a larger audience (Honig & MacDowall, 2016).

The hypothesis that conformity would be a significant predictor of self-presentation was not supported. The conformity scale in the current study was chosen to operationalise the act of challenging society, which was reported to be the aim of young women and the trend of provocative image sharing behaviours (Murray, 2015). A scale of unconventionality may provide a more valid measure in future research, or a measure of activism may represent the attitude of challenging society more accurately. Further research into the way that young people protest inequalities and challenge conventions may assist in operationalising this concept in the future.

The hypothesis of exhibitionism and drive increasing congruency of self-presentation was not supported in the current study. Bivariate correlations also demonstrated very weak relationships between exhibitionism and self-presentation, and drive and self-presentation. Despite exhibitionism being identified as a

significant predictor of image-based sharing (Munar, 2010), and drive items being established as a motivator of assertive self-presentation tactics (Hart et al., 2017), neither variable exerted influence over self-presentation on Instagram in the current study.

The hypothesis that grandiose narcissism would moderate the relationship between vanity traits and self-presentation was not supported. Although the moderation hypothesis was not supported, the plotted results of the current study demonstrated that at low levels of grandiose narcissism, levels of exhibitionism remained unaffected. However as grandiose narcissism increased, the predictive power of exhibitionism also increased. Analysis of vulnerable narcissism moderating the relationship between appreciation of beauty and self-presentation, was not considered significant at the alpha level ($p = 0.54$). On plotting the data, it was observed that as levels of vulnerable narcissism increased the predictive power of appreciation of beauty decreased. Despite having enough power in the current study (Green, 1991), to be able to identify both vulnerable narcissism and appreciation of beauty as significant predictors, the effect size of this moderation was too small ($R^2 = 0.02$) to reveal statistical significance.

Limitations and Recommendations for Future Research

Possible limitations to the current study have been identified. A first conceivable limitation includes the disputed nature of self-reporting. Surveys employing the self-report method are subject to the effects of common method variance (Lindell & Whitney, 2001). Common method variance occurs when the participants are asked to answer survey items pertaining to their internal states and previous performance associated with those internal states, as in the case of the

current study, consequentially observed correlations become inflated (Lindell & Whitney, 2001).

Truth in the self-report method also hinges on the participants capacity to introspect (Bergman et al, 2011) drawing on self-awareness of one's thinking and goals (Kernis & Goldman, 2006). Individual responses may unintentionally deviate from the truth because an individual is not self-aware, rather than a deliberate act of deception (Paulhus, 2002). It is relevant to note that self-awareness of one's values and opinions may be under pressure at a time when an individual is experiencing challenges to their identity, and forming new social circles such as beginning life at university (Yang & Brown, 2016). To counteract this self-awareness limitation, future research could incorporate analysis of users' actual Instagram profiles, which would enable the analysis of users' choice of posted content and broaden the perspective of self-presentation.

Sample structure is another potential limitation of this study. The University of Tasmania student population would be described as culturally diverse however, the question of ethnicity background was not asked of participants. Therefore, the question remains whether the results of this study would translate cross culturally. With a relatively young sample in the current study, the extent to which findings would be externally valid (beyond this sample) is also questioned. However, females under 35 are identified as the major demographic of Instagram users (Smith, 2014). Therefore, the younger ($M = 22.14$ years) predominantly female population (83% female) in this study could be described as highly representative of the wider population of Instagram users. The sample in the current study is comparable or better than existing research including Hart et al. (2017; $M = 18.78$ years), and Sheldon and Bryant (2016; $M = 22.60$).

A final limitation identified is that of cross-sectional design. Future research implementing a longitudinal design like that of Yang and Brown (2016) exploring user motivations together with true self-presentation may provide further insight into the way that individuals manage their online presence and explore the factors of social context, and identity formation on self-presentation. Given that personality is described as relatively stable over time however (Costa & McCrae, 1997), causal relationships between the variables in the current study are reasonable from a theoretical viewpoint.

Implications

Findings from this study demonstrate the relatively low difference between younger individual's everyday self and the persona they present on Instagram. The positive results of this study will hopefully challenge negative stereotyping of younger Instagram users, who have been judged by the media as exhibitionistic, overindulged and false (Vanian, 2017). Bergman et al (2011), described the high engagement with social media not as an indication of pathology, but rather a sign of the times. Reframing of Millennial's social media use, would positively reinforce what has become part of everyday social interactions and self-expression in the current generation (Smith, 2014).

Results identifying appreciation of beauty as a significant predictor of self-presentation is an important finding of the current study. This significant result highlights a unique relationship with Instagram and poses a new reason for self-presentation of users. Results confirm Murray's (2015) qualitative work posing the artistic movement emerging on social media, particularly on image based sharing applications like Instagram. In terms of uses and gratifications theory (Katz et al., 1974; Ruggerio, 2000), the results of the current study including the significance of

the appreciation of beauty, challenges researchers to update what we know about the gratifications being sought in a dynamic environment like Instagram.

Research has emphasised the benefits of authenticity online including increased psychological well-being and self-esteem (Reinecke & Trepte, 2014). It cannot be ascertained whether the low self-presentation difference of the current study reflects authentic disclosure of one's self, given the positivity bias younger individuals are subjected to (Leary & Kowalski, 1990; Reinecke & Trepte, 2014). Users would benefit from social media education where congruent self-presentation is encouraged, but authenticity is also valued, that is both the negative and positive aspects of the self.

The difference in presentation that was reported was significantly associated with levels of grandiose or vulnerable narcissism. The method of this study in measuring the two sub-types of narcissism and the significant result demonstrating the opposing effects on self-presentation is further validation of the need to employ multiple measures. The co-mingling of a single narcissism construct and its interactions with SNSs as in past research (Bergman et al., 2011; Buffardi & Campbell, 2008; Moon et al., 2016) ignored the presence of a covert, hypersensitive narcissism which is associated with lower self-esteem, negative affect, and depression. Failure to acknowledge the two forms of narcissism, will produce misleading results and neglect to improve psychological outcomes of vulnerable narcissists in the Instagram environment.

Conclusion

The aim of the current study was to explore the influence of vanity, art, and narcissism on self-presentation. Results indicated a stable level of congruency overall in self-presentation, and a significant effect of grandiose and vulnerable narcissism in

the opposing directions. Traits associated with vanity were not an influential factor in the study, however an appreciation of art and beauty was associated with presenting an alternate version of one's self on Instagram. Future research into user's choice of images and the association with gratifications being sought (Ruggerio, 2000), or the imagined audience (Marwick & Boyd, 2011) is of merit. Gratifications aside, self-presentation is identified as a critical aspect of young people's identity construction (Arnett, 2015). Results of the current study suggest that the visual world of Instagram that is often labelled as vain and false (Vanian, 2017), is experienced by the current generation of users as a credible form of congruent self-presentation, and a platform to express an appreciation of the aesthetic world.

References

- Antheunis, M. L., Valkenburg, P. M., & Peter, J. (2010). Getting acquainted through social networking sites: Testing a model of online uncertainty reduction and social attraction. *Computers in Human Behaviour*, 26, 100 – 109.
doi.org/10.1016/j.chb.2009.07.005
- Arnett, J. J. (2015). *Emerging adulthood: The winding road from the late teens through the twenties* (2nd ed.). New York: Oxford University Press.
- Ashton, M. C., & Lee, K. (2009). The HEXACO-60: a short measure of the major dimensions of personality. *Journal of Personality Assessment*, 91, 340 - 345.
- Back, M. D., Stopfer, J. M., Vazire, S., Gaddis, S., Schmukle, S. C., Egloff, B., Gosling, S. D. (2010). Facebook profiles reflect actual personality, not self-idealisation, *Psychological Science*, XX(X), 1 – 3. doi:
10.1177/0956797609360756
- Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review*, 88, 354–364. doi:10.1037/0033-295X.88.4.354
- Bowerman, B. L., & O'Connell, R. T. (1990). *Linear statistical models: An applied approach* (2nd ed.). Belmont, CA: Duxbury.
- Buffardi, L. E., & Campbell, W. K. (2008). Narcissism and social networking web sites. *Personality and Social Psychology Bulletin*, 34(1), 1303 – 1314. doi:
10.1177/014616720832061
- Chaffey, D. (2017). Global Social Media Research Summary 2017. *Smart Insights*. Retrieved from <http://www.smartinsights.com/social-media-marketing/social-media-strategy/new-global-social-media-research/>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioural Sciences* (2nd ed.). New York: Academic Press.

- Costa, P. T. Jr., & McCrae, R. R. (1997). Stability and change in personality assessment. The revised NEO Personality Inventory. *Journal of Personality Assessment*, 68(1), 86 - 94.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349 - 354.
doi.org/10.1037/h0047358
- Dickinson, K.A., & Pincus, A.L. (2003). Interpersonal analysis of grandiose and vulnerable narcissism. *Journal of Personality Disorders*, 17(3), 188 - 207.
doi:10.1521/pedi.17.3.188.2214
- Diessner, R., Solom, R. C., Frost, N. K., Parsons, L., & Davidson, J. (2008). Engagement with beauty: Appreciating natural, artistic, and moral beauty. *The Journal of Psychology*, 142(3), 303 – 329.
- Dumas, T. M., Maxwell-Smith, M., Davis, J. P., & Giulietti, P. A. (2017). Lying or longing for likes? Narcissism, peer belonging, loneliness, and normative versus deceptive like-seeking on Instagram in emerging adulthood. *Computers in Human Behaviour*, 71, 1 - 10. doi:10.1016/j.chb.2017.01.037
- Dunn, D. S. (2013). *The practical researcher: A student guide to conducting psychological research* (3rd ed.). Hoboken, NJ: John Wiley & Sons Inc.
- Durbin, J., & Watson, G. S. (1951) Testing for serial correlation in least squares regression, II. *Biometrika*, 30, 159 - 178.
- Erikson, E. (1968). *Identity: Youth and crisis*. Oxford, England: Norton & Co.
- Facebook newsroom. (2015). Retrieved from <https://newsroom.fb.com/company-info/>

- Fisher, M., Boland Jr., R., & Lyytinen, K. (2016). Social networking as the production and consumption of a self. *Information and Organisation*, 26, 131 – 145. doi.10.1016/j.infoandorg.2016.11.001
- Gil-Or, O., Levi-Belz, Y., & Turel, O. (2015). The “Facebook-self”: characteristics and psychological predictors of false self-presentation on Facebook. *Frontiers in Psychology*, 6(99), 1 - 10.
- Goffman, E. (1959). *The presentation of self in everyday life*. Oxford, England: Doubleday.
- Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2006). The International Personality Item Pool and the future of public-domain personality measures. *Journal of Research in Personality*, 40, 84 - 96.
- Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioural Research*, 26, 499 – 510. doi: 10.1207/s15327906mbr2603_7
- Grieve, R., Indian, M., Witteveen, K., Tolan, G. A., & Marrington, J. (2013). Face-to-face or Facebook: Can social connectedness be derived online? *Computers in Human Behaviour*, 29, 604 – 609. doi. 10.1016/j.chb.2012.11.017
- Grieve, R., & Watkinson, J. (2016). The psychological benefits of being authentic on Facebook. *Cyberpsychology, Behaviour, and Social Networking*, 19(7), 420 - 425.
- Gross, M. B., Wolanin, A. T., Pess, R. A., & Hong, E. S. (2017). Socially desirable responding by student athletes in the context of depressive symptom evaluation. *Journal of Clinical Sports Psychology*, 11, 148 – 157. doi. 10.1123/jcsp.2017-0020

- Hart, W., Adams, J., Burton, K. A., Tortoriello, G. K. (2017). Narcissism and self-presentation: Profiling grandiose and vulnerable narcissists' self-presentation tactic use. *Personality and Individual Differences*, 104, 48 - 57.
doi:10.1016/j.paid.2016.06.062.
- Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis*. New York: The Guilford Press.
- Hendin, H. M., & Cheek, J. M. (1997). Assessing hypersensitive narcissism: A re-examination of Murray's Narcissism Scale. *Journal of Research in Personality*, 31(4), 588 – 599.
- Honig, C. D. F., & MacDowall, L. (2016). Audience constructed genre with Instagram: Street and graffiti. *First Monday* 21(8),
doi:10.5210.fm.v21i8.6810.
- Indian, M., & Grieve, R. (2014). When Facebook is easier than face to face: Social support derived from Facebook in socially anxious individuals. *Personality and Individual Differences*, 59, 12 – 106. doi:10.1016/j.paid.2013.11.016
- Instagram. (2017). Retrieved from <https://www.instagram.com/about/us/>
- Johnson, P. O., & Neyman, J. (1936). Tests of certain linear hypotheses and their application to some educational problems. *Statistical Research Memoirs*, 1, 57 – 93.
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment*, 21(1), 28 - 41, doi: 10.1177/1073191113514105
- Katz, E., Blumler, J. G., & Gurevitch, M. (1974). Uses and gratifications research. *The Public Opinion Quarterly*, 37, 509 – 523. doi: 10.1086/268109

- Kealy, D., & Rasmussen, B. (2012) Veiled and vulnerable: The other side of grandiose narcissism. *Clinical Social Work Journal*, 356 - 365. doi: 10.1007/s10615-011-0370-1.
- Kernis, M. H., & Goldman, B. M. (2006). A multicomponent conceptualization of authenticity: Theory and research. *Advances in Experimental Social Psychology*, 38, 283 – 357.
- Kwon, O., & Wen, Y. (2010). An empirical study of the factors affecting social network service use. *Computers in Human Behaviour*, 26(2), 254 – 263.
- Lambert, C. E., Arbuckle, S. A., & Holden, R. R. (2016). The Marlowe–Crowne Social Desirability Scale outperforms the BIDR Impression Management Scale for identifying fakers. *Journal of Research in Personality*, 61, 80 - 86. doi.org/10.1016/j.jrp.2016.02.004.
- Leary, M. R., & Kowalski, R. M. (1990). Impression management: A literature review and two-component model. *Psychological Bulletin*, 107(1), 34 – 47. doi:10.1037/0033-2909.107.1.34.
- Lee, D. H. (2005). Women’s creation of camera phone culture. *Fibreculture Journal*, 6.
- Lee, E., Lee, J., Moon, J., & Sung, Y. (2015). Pictures speak louder than words: Motivations for using Instagram. *Cyberpsychology, Behaviour, and Social Networking*, 18(9), 552 – 556. doi:10.1089/cyber.2015.0157
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, (1), 114. doi:10.1037/0021-9010.86.1.114

- Liu, D., & Baumeister, R. F. (2016). Social networking online and personality of self-worth: A meta-analysis. *Journal of Research in Personality*, 64, 79 – 89. doi:10.1016/j.jrp.2016.06.024
- Lunney, G. H. (1970). Using analysis of variance with a dichotomous dependent variable: An empirical study. *Journal of Educational Measurement*, 7(4), 263 - 269.
- Mahar, D., Coburn, B., Griffin, N., Hemeter, F., Potappel, C., Turton, M., & Mulgrew, K. (2006). Stereotyping as a response strategy when faking personality questionnaires. *Personality and Individual Differences*, 40(7), 1375 - 1386. doi.org/10.1016/j.paid.2005.11.018
- Marwick, A. E., & Boyd, D. (2011). I tweet honestly, I tweet passionately; Twitter users, context collapse, and the imagined audience. *New Media and Society*, 13(1), 114 – 133. doi:10.1177/1461444810365313
- Marwick, A. (2015). Instafame: Luxury selfies in the attention economy. *Public Culture*, 27(1), 137 -160. doi:10.1215/08992363-2798379
- Miller, J. D., & Campbell, W. K. (2008). Comparing Clinical and Social-Personality Conceptualizations of Narcissism. *Journal of personality*, 76(3), 449 - 476.
- Miller, J. D., Hoffman, B. J., Gaughan, E. T., Gentile, B., Maples, J., & Campbell, W.K. (2011). Grandiose and vulnerable narcissism: A nomological network analysis. *Journal of Personality*, 79(5), 1013 - 1042. doi:10.1111/j.1467-6494.2010.00711.x
- Moon, J. H., Lee, E., Lee, J., Choi, T. R., & Sung, Y. (2016). The role of narcissism in self-promotion on Instagram. *Personality and Individual Differences*, 101, 22 - 25.

- Morf, C. C., & Rhodewalt, F. (2001). Unravelling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry*, 12(4), 177 - 196.
- Munar, A. (2010). Digital exhibitionism: The age of exposure. *Culture Unbound: Journal of Current Cultural Research*, 401.
- Murray, D. C. (2015). Notes to self: the visual culture of selfies in the age of social media. *Consumption, Markets and Culture*, 18(6), 490 - 516.
- Nagle, Y. K., & Anand, K. (2012). Empathy and personality traits as predictors of adjustment in Indian youth. *Industrial Psychiatry Journal*, 21(2), 125.
doi:10.4103/0972-6748.119608
- Oberst, U., Renau, V., Chamarro, A., & Carbonell, X. (2016). Gender stereotypes in Facebook profiles: Are women more female online? *Computers in Human Behaviour*, 60, 559 - 564. doi: 10.1016/j.chb.2016.02.085
- Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of personality and social psychology*, 74(5), 1197.
- Paulhus, D.L. (2002). Socially desirable responding: The evolution of a construct. In H.I. Braun, D.N. Jackson, & D.E. Wiley (Eds.). *The Role of Constructs in Psychological and Educational Measurement* (pp. 49–69). Mahwah, NJ: Erlbaum.
- Paulhus, D. L. (2013). *Dark triad of Personality (D3-Short)*. Measurement Instrument Database for the Social Science.
- Pelham, B. W., & Hetts, J. J. (1999). Implicit and explicit personal and social identity: Toward a more complete understanding of the social self. In Tyler,

T. R., Kramer, R. M., & John, O. P., (Ed). *The Psychology of Social Self*,
Mahwah, NJ:

Pittman, M., & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand twitter words. *Computers in Human Behaviour*, 62, 155 – 167. doi: 10.1016/j.chb.2016.03.084

Reinecke, L., & Trepte, S. (2014). Authenticity and well-being on social network sites: A two-wave longitudinal study on the effects of online authenticity and the positivity bias in SNS communication. *Computers in Human Behaviour*, 30, 95 – 102. doi:10.1016/j.chb.2013.07.030

Reynolds, W. (1982). Development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology*, 38(1), 119 - 125. doi:10.1002/1097-4679(198201)38:1

Ridgway, J. L., & Clayton, R. B. (2016). Instagram unfiltered: Exploring associations of body image satisfaction, Instagram #selfie posting, and negative romantic relationship outcomes. *Cyberpsychology, Behaviour, and Social Networking*, 19(1), 2-7. doi:10.1089/cyber.2015.0433

Ruggerio, T. E. (2000). Uses and gratifications theory in the 21st century. *Mass Communication and Society*, 3(1), 3 – 37.
doi:10.1207/S15327825MCS0301_02

Salgado, J. F., Moscoso, S., & Alonso, P. (2013). Sub-dimensional structure of the Hogan Personality Inventory. *International Journal of Selection and Assessment*, 21(3), 277 - 285.

Seidman, G. (2013). Self-presentation and belonging on Facebook: How personality influences social media use and motivations. *Personality and Individual Differences*, 54, 402 - 407.

- Sheldon, P., & Bryant, K. (2016). Instagram: Motives for its use and relationship to narcissism and contextual age. *Computers in Human Behaviour*, 58, 89 - 97.
- Siegling, A. B., & Petrides, K. V. (2016). Drive: Theory and construct validation. *Plos One*, 11(7), e0157295. doi:10.1371/journal.pone.0157295
- Smith, C. (2014). *Here's why Instagram's demographics are so attractive to brands*. Retrieved from www.businessinsider.com/instagram-demographics-2013-12
- Stanculescu, E. (2011). *Online self-presentation from the cyberpsychology perspective*. Paper presented at the Seventh International Scientific Conference eLearning and Software for Education, Bucharest. Retrieved from <https://www.researchgate.net/publication/265982045>
- Sundar, S. S., & Limperos, A. M. Uses and Grats 2.0: New gratifications for new media. *Journal of Broadcasting and Electronic Media*, 57(4), 504 -525. doi:1080/08838151.2013.3458
- Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics* (6th ed.). Boston: Pearson Education.
- Twenge, J. M., & Campbell, K. W. (2009). *The narcissism epidemic: Living in the age of entitlement*. New York: Simon and Schuster.
- Vanian, J. (2017). Millennials Can't Stop Being Narcissistic on Instagram, Duh. *Fortune.Com*, 1
- Van Oosten, J. M. F., Vandenbosch, L., & Peter, J. (2017). Gender roles on social networking sites: investigating reciprocal relationships between Dutch adolescents' hypermasculinity and hyperfemininity and sexy online self-presentations. *Journal of Children and Media*, 11(2), 147 – 166. doi. 10.1080/17482798.2017.1304970

Wiggins, B. C. (2000). Detecting and Dealing with Outliers in Univariate and Multivariate Contexts. Retrieved from ERIC database

<http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED44818>

9

Yang, C, & Brown, B. B. (2016). Online self-presentation on Facebook and self-development during the college transition. *Journal of Youth and Adolescence*, 45, 402 – 416. doi:10.1007/s10964-015-0385-y

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Appendix A1

Demographic Questions

What is your gender?

- ☐ Female
- ☐ Male
- ☐ Other

What is your current age in years?

- ☐ _____

You must be at least 18 years of age to participate in this study.

Are you a current Instagram user?

- ☐ Yes
- ☐ No

How long do you usually spend on Instagram per day?

- ☐ Up to 15 minutes
- ☐ 15 – 30 minutes
- ☐ 1 hour

How often do you post content to Instagram?

What is your reason for using Instagram?

Appendix A2

HEXACO-60 (Ashton & Lee, 2009)

Directions: Please indicate your level of agreement with each of the following statements from one (strongly agree) to five (strongly disagree).

1. I would be quite bored by a visit to an art gallery*
2. I plan ahead and organize things, to avoid scrambling at the last minute.
3. I rarely hold a grudge, even against people who have badly wronged me.
4. I feel reasonably satisfied with myself overall.
5. I would feel afraid if I had to travel in bad weather conditions.
6. I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.
7. I'm interested in learning about the history and politics of other countries.
8. I often push myself very hard when trying to achieve a goal.
9. People sometimes tell me that I am too critical of others*
10. I rarely express my opinions in group meetings*
11. I sometimes can't help worrying about little things.
12. If I knew that I could never get caught, I would be willing to steal a million dollars*
13. I would enjoy creating a work of art, such as a novel, a song, or a painting.
14. When working on something, I don't pay much attention to small details*
15. People sometimes tell me that I'm too stubborn*
16. I prefer jobs that involve active social interaction to those that involve working alone.
17. When I suffer from a painful experience, I need someone to make me feel comfortable.
18. Having a lot of money is not especially important to me.
19. I think that paying attention to radical ideas is a waste of time*
20. I make decisions based on the feeling of the moment rather than on careful thought*
21. People think of me as someone who has a quick temper*
22. On most days, I feel cheerful and optimistic.
23. I feel like crying when I see other people crying.
24. I think that I am entitled to more respect than the average person is*
25. If I had the opportunity, I would like to attend a classical music concert.
26. When working, I sometimes have difficulties due to being disorganized*
27. My attitude toward people who have treated me badly is "forgive and forget".
28. I feel that I am an unpopular person*
29. When it comes to physical danger, I am very fearful.
30. If I want something from someone, I will laugh at that person's worst jokes*
31. I've never really enjoyed looking through an encyclopedia*
32. I do only the minimum amount of work needed to get by*
33. I tend to be lenient in judging other people.

34. In social situations, I'm usually the one who makes the first move.
35. I worry a lot less than most people do*
36. I would never accept a bribe, even if it were very large.
37. People have often told me that I have a good imagination.
38. I always try to be accurate in my work, even at the expense of time.
39. I am usually quite flexible in my opinions when people disagree with me.
40. The first thing that I always do in a new place is to make friends.
41. I can handle difficult situations without needing emotional support from anyone else*
42. I would get a lot of pleasure from owning expensive luxury goods*
43. I like people who have unconventional views.
44. I make a lot of mistakes because I don't think before I act*
45. Most people tend to get angry more quickly than I do.
46. Most people are more upbeat and dynamic than I generally am*
47. I feel strong emotions when someone close to me is going away for a long time.
48. I want people to know that I am an important person of high status*
49. I don't think of myself as the artistic or creative type*
50. People often call me a perfectionist.
51. Even when people make a lot of mistakes, I rarely say anything negative.
52. I sometimes feel that I am a worthless person*
53. Even in an emergency I wouldn't feel like panicking*
54. I wouldn't pretend to like someone just to get that person to do favours for me.
55. I find it boring to discuss philosophy*
56. I prefer to do whatever comes to mind, rather than stick to a plan*
57. When people tell me that I'm wrong, my first reaction is to argue with them*
58. When I'm in a group of people, I'm often the one who speaks on behalf of the group.
59. I remain unemotional even in situations where most people get very sentimental*
60. I'd be tempted to use counterfeit money, if I were sure I could get away with it*

Note. Items marked with * are reverse scored. Total score is derived by summing the item responses.

Appendix A3
HEXACO-60 (Ashton & Lee, 2009)

Directions: Please indicate your level of agreement with each of the following statements from one (strongly agree) to five (strongly disagree).

1. The persona I present on Instagram would be quite bored by a visit to an art gallery*
2. My Instagram self would plan ahead and organise things to avoid scrambling at the last minute.
3. My Instagram self would rarely hold a grudge, even against people who have badly wronged me.
4. The self I present on Instagram feels reasonably satisfied with overall.
5. The persona I present on Instagram would feel afraid if they had to travel in bad weather conditions.
6. The persona I present on Instagram wouldn't use flattery to get a raise or promotion at work, even if they thought it would succeed.
7. My Instagram self would be interested in learning about the history and politics of other countries.
8. The self I present on Instagram would push very hard when trying to achieve a goal.
9. My Instagram self could be told they are too critical of others*
10. The persona I present on Instagram would rarely express opinions in group meetings*
11. The persona I present on Instagram would worry about little things.
12. If my Instagram self knew that it could never get caught it would be willing to steal a million dollars*
13. My Instagram self would enjoy creating a work of art, such as a novel, a song, or a painting.
14. When working on something, my Instagram self wouldn't pay much attention to small details*
15. People might say that the person I present on Instagram is too stubborn*
16. My Instagram self would prefer jobs that involve active social interaction to those that involve working alone.
17. If my Instagram self suffered from a painful experience, it would need someone to make me feel comfortable.
18. Having a lot of money is not especially important to the persona I present on Instagram.
19. My Instagram self thinks that paying attention to radical ideas is a waste of time*
20. The persona I present on Instagram makes decisions based on the feeling of the moment rather than on careful thought*
21. People think of my Instagram self as someone who has a quick temper*
22. On most days, the persona I present on Instagram feels cheerful and optimistic.

23. The persona I present on Instagram feels like crying when they see other people crying.
24. My Instagram self would think they are entitled to more respect than the average person is*
25. If my Instagram-self had the opportunity, they would like to attend a classical music concert.
26. When working, the persona I present on Instagram sometimes has difficulties due to being disorganised*
27. The attitude of my Instagram self toward people who have treated me badly is “forgive and forget”.
28. The persona I present on Instagram feels unpopular*
29. When it comes to physical danger, the persona I present on Instagram is very fearful.
30. If my Instagram-self wanted something from someone, they would laugh at that person’s worst jokes*
31. The persona I present on Instagram would not really enjoy looking through an encyclopedia*
32. The persona I present on Instagram would only do the minimum amount of work needed to get by*
33. The persona I present on Instagram would be lenient in judging other people.
34. In social situations, my Instagram self would usually be the one who makes the first move.
35. My Instagram self would worry a lot less than most people do*
36. The persona I present on Instagram would never accept a bribe, even if it were very large.
37. People would tell my Instagram self that I have a good imagination.
38. My Instagram self would always try to be accurate in my work, even at the expense of time.
39. The persona I present on Instagram would be quite flexible in my opinions when people disagree with me.
40. My Instagram self would say the first thing that I always do in a new place is to make friends.
41. My Instagram self could handle difficult situations without needing emotional support from anyone else*
42. The persona I present on Instagram would get a lot of pleasure from owning expensive luxury goods*
43. My Instagram self likes people who have unconventional views.
44. My Instagram self would say that I make a lot of mistakes because I don’t think before I act*
45. Most people tend to get angry more quickly than the persona I present on Instagram.
46. Most people are more upbeat and dynamic than the persona I present on Instagram*
47. The persona I present on Instagram would feel strong emotions if someone close to me was going away for a long time.
48. My Instagram self would say that I want people to know that I am an important person of high status*

49. The persona I present on Instagram would not think of themselves as the artistic or creative type*
50. People would call the persona I present on Instagram a perfectionist.
51. Even when people make a lot of mistakes, my Instagram self would rarely say anything negative.
52. The persona I present on Instagram would sometimes feel worthless*
53. Even in an emergency the persona I present on Instagram wouldn't feel like panicking*
54. My Instagram self wouldn't pretend to like someone just to get that person to do favours for me.
55. The persona I present on Instagram would find it boring to discuss philosophy*
56. The persona I present on Instagram would prefer to do whatever comes to mind, rather than stick to a plan*
57. If people were to tell my Instagram self that I was wrong, my first reaction would be to argue with them*
58. If my Instagram self were in a group of people, my Instagram self would speak on behalf of the group.
59. The persona I present on Instagram would remain unemotional even in situations where most people get very sentimental*
60. The persona I present on Instagram would be tempted to use counterfeit money, if I were sure I could get away with it*

Note. Items marked with * are reverse scored. Total score is derived by summing the item responses.

Appendix A4

Marlowe Crowne Social Desirability Scale, Form MC-C (Reynolds, 1982)

Directions: Please indicate whether this item is true or false for you. Response:
T=True, F=False

1. It is sometimes hard for me to go on with my work if I am not encouraged (F)
2. I sometimes feel resentful when I don't get my way. (F)
3. On few occasions, I have given up something because I thought too little of my ability. (F)
4. There have been times when I felt like rebelling against people in authority even though I knew they were right. (F)
5. No matter who I'm talking to, I'm always a good listener. (T)
6. There have been occasions when I have taken advantage of someone. (F)
7. I'm always willing to admit when I make a mistake. (T)
8. I sometimes try to get even rather than forgive and forget. (F)
9. I am always courteous, even to people who are disagreeable. (T)
10. I have never been irked when people expressed ideas very different from my own. (T)
11. There have been times when I was quite jealous of the good fortune of others. (F)
12. I am sometimes irritated by people who ask favours of me. (F)
13. I have never deliberately said something that hurt someone's feelings. (T)

Note. Items are keyed true or false as marked in parentheses.

Appendix A5

Exhibitionism Items from the IPIP (Goldberg, 1999).

Directions: Please indicate your level of agreement with each of the following statements from one (strongly agree) to five (strongly disagree).

1. I don't mind being the centre of attention
2. I like to attract attention
3. I make myself the centre of attention
4. I don't like to draw attention to myself *
5. I dislike being the centre of attention *
6. I dislike talking about myself *

Note. Items marked with * are reverse scored. Total score is derived by summing the item responses.

Appendix A6

Drive items from the IPIP (Goldberg, 1999)

Directions: Please indicate your level of agreement with each of the following statements from 1 = very true for me, 2 = somewhat true for me, 3 = somewhat false for me, 4 = very false for me.

1. I go out of my way to get things I want *
2. When I want something I usually go all-out to get it *
3. If I see a chance to get something I want I move on it right away *
4. When I go after something I use a “no holds barred” approach *

Note. Items marked with * are reverse scored. Total score is derived by summing the item responses.

Appendix A7

Appreciation of Beauty Scale (IPIP, Goldberg, 1999)

Directions: Please indicate your level of agreement with each of the following statements from one (strongly agree) to five (strongly disagree).

1. I feel it's important to live in a world of beauty.
2. I can become tearful thinking of the goodness of others
3. I experience deep emotions when I see beautiful things.
4. I have been left speechless by the beauty depicted in a movie.
5. I appreciate all forms of art.
6. I am in awe of simple things in life that others may take for granted.
7. I crave the experience of great art.
8. I fail to notice beauty until others comment on it *

Note. Items marked with * are reverse scored. Total score is derived by summing the item responses.

Appendix A8

Conformity (IPIP Goldberg, 1999)

Directions: Please indicate your level of agreement with each of the following statements from one (strongly agree) to five (strongly disagree).

1. I worry about what people think of me.
2. I conform to other's opinions.
3. I need the approval of others.
4. I want to amount to something special in other's eyes.
5. I do what others do.
6. I don't care what others think *
7. I am not concerned with making a good impression *
8. I feel it's OK that some people don't like me *
9. I want to form my own opinions *
10. I want to be different from others *

Note. Items marked with * are reverse scored. Total score is derived by summing the item responses.

Appendix A9

The Dark Triad of Personality Narcissism Scale D3-short (Paulhus, 2013)

Directions: Please indicate your level of agreement with each of the following statements from one (strongly agree) to five (strongly disagree).

1. People see me as a natural born leader.
2. I hate being the centre of attention *
3. Many group activities tend to be dull without me.
4. I know that I am special because everyone keeps telling me so.
5. I like to get acquainted with important people.
6. I feel embarrassed if someone compliments me *
7. I have been compared with famous people.
8. I am average person *
9. I insist on getting the respect I deserve.

Note. Items marked with * are reverse scored. Total score is derived by summing the item responses.

Appendix A10

Hypersensitive Narcissism Scale (Hendin & Cheek, 1997)

Directions: Please indicate your level of agreement with each of the following statements from one (strongly agree) to five (strongly disagree).

1. I can become entirely absorbed in thinking about my personal affairs, my health, my cares or my relations to others.
2. My feelings are easily hurt by ridicule or by the slighting remarks of others.
3. When I enter a room I often become self-conscious and feel that the eyes of others are upon me.
4. I dislike sharing the credit of an achievement with others.
5. I dislike being with a group unless I know that I am appreciated by at least one of those present.
6. I feel that I am temperamentally different from most people.
7. I often interpret the remarks of others in a personal way.
8. I easily become wrapped up in my own interests and forget the existence of others.
9. I feel that I have enough on my hands without worrying about other people's troubles.
10. I am secretly "annoyed" when other people come to me with their troubles, asking me for my time and sympathy.

Note. Total score is derived by summing the item responses.

Appendix B

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HUMAN RESEARCH ETHICS COMMITTEE (TASMANIA) NETWORK

04 July 2017

Dr Rachel Grieve
Division of Psychology
University of Tasmania

Student Researcher: Rachelle Dolzan

Sent via email

Dear Dr Grieve

Re: MINIMAL RISK ETHICS APPLICATION APPROVAL
Ethics Ref: H0016598 - Personality and Instagram Use

We are pleased to advise that acting on a mandate from the Tasmania Social Sciences HREC, the Deputy Chair of the committee considered and approved the above project on 30 May 2017.

This approval constitutes ethical clearance by the Tasmania Social Sciences Human Research Ethics Committee. The decision and authority to commence the associated research may be dependent on factors beyond the remit of the ethics review process. For example, your research may need ethics clearance from other organisations or review by your research governance coordinator or Head of Department. It is your responsibility to find out if the approval of other bodies or authorities is required. It is recommended that the proposed research should not commence until you have satisfied these requirements.

Please note that this approval is for four years and is conditional upon receipt of an annual Progress Report. Ethics approval for this project will lapse if a Progress Report is not submitted.

The following conditions apply to this approval. Failure to abide by these conditions may result in suspension or discontinuation of approval.

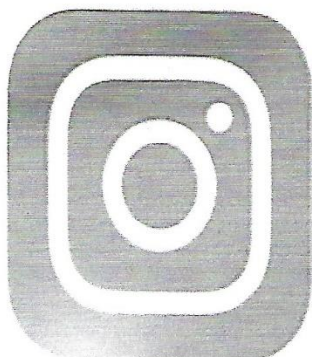
1. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval, to ensure the project is conducted as approved by the Ethics Committee, and to notify the Committee if any investigators are added to, or cease involvement with, the project.

A PARTNERSHIP PROGRAM IN CONJUNCTION WITH THE DEPARTMENT OF HEALTH AND HUMAN SERVICES

2. Complaints: If any complaints are received or ethical issues arise during the course of the project, investigators should advise the Executive Officer of the Ethics Committee on 03 6226 7479 or human.ethics@utas.edu.au.
3. Incidents or adverse effects: Investigators should notify the Ethics Committee immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
4. Amendments to Project: Modifications to the project must not proceed until approval is obtained from the Ethics Committee. Please submit an Amendment Form (available on our website) to notify the Ethics Committee of the proposed modifications.
5. Annual Report: Continued approval for this project is dependent on the submission of a Progress Report by the anniversary date of your approval. You will be sent a courtesy reminder closer to this date. **Failure to submit a Progress Report will mean that ethics approval for this project will lapse.**
6. Final Report: A Final Report and a copy of any published material arising from the project, either in full or abstract, must be provided at the end of the project.

Yours sincerely

Katherine Shaw
Executive Officer
Tasmania Social Sciences HREC



Are you over 18 years of age?

Are you a current Instagram user?

Personality and Instagram Use Study

You are invited to take part in an anonymous online study about Instagram. The purpose of this study is to examine how personality influences Instagram use.

Participants will be given the opportunity to enter a random prize draw of six x \$50.00 gift vouchers, OR KHA 111/KHA 112 students can receive .75 course credit for participation via SONA.

This study is being conducted as part of an Honours research project at the University of Tasmania, School of Medicine (Psychology), under the supervision of Dr Rachel Grieve. Please contact Rachelle Dolzan (rsdolzan@utas.edu.au) or follow the link provided for further information. Ethics Approval Code H0016598.

<https://www.surveymonkey.com/r/PersonalityandInstagramUse>

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Appendix D

Participant Information and Consent Form

1. Invitation

You are invited to participate in an anonymous study examining whether self-presentation on Instagram varies according to personality. This study is being conducted as part of an Honours project by Rachelle Dolzan under the supervision of Dr Rachel Grieve in the School of Medicine (Psychology) at the University of Tasmania.

2. What is the purpose of this study?

Social networking sites have become a major method of communication for younger individuals and a vital method of self-presentation. The purpose of this study is to examine whether different personality traits influence self-presentation on social media.

3. Why have I been invited to participate?

You are eligible to participate in this study because you are an adult, and a current Instagram user. Participation in this study is entirely voluntary. There will be no consequences for individuals who do not wish to participate in this study.

4. What will I be asked to do?

If you decide to participate in this anonymous online study, you will be asked to complete a number of short questionnaires and to provide responses to some open-ended questions. For example, you will be asked to indicate how much you agree with statements such as “On most days I feel cheerful and optimistic”; “I push myself very hard to succeed”; “I want to form my own opinions”; and “I feel out of touch when I haven’t logged on to Instagram for a while”.

All responses that you provide will be completely anonymous and no information that could identify you will be collected as part of the survey.

Participation will take around 35-45 minutes.

5. Are there any possible benefits from participation in this study?

It is not anticipated that taking part in this study will result in any direct benefits to participants. However, first year students studying Psychology at the university of Tasmania will be eligible to receive 45 minutes of research participation credit for their participation in this study via SONA. Participants from the general public (and any students who choose not to receive research credit) will have the chance to win one of six \$50 gift vouchers (please note: at the end of this study you will be asked to follow a separate secure link to provide your details to receive research credit, or to go into the draw to win the gift voucher. There will be no way to link your survey answers with your identity, thus participation is entirely anonymous).

6. Are there any possible risks from participation in this study?

There are no specific risks anticipated with participation in this study. However, if UTAS students participating in this study would like to access counselling services,

they can do so by following this link:

<http://www.utas.edu.au/students/counselling/personal-counselling> . Participants from the general public should contact their GP, or Lifeline on 13 11 14.

7. What if I change my mind during or after the study?

Participation in this study is completely voluntary. You may choose to discontinue participation at any point throughout the study without providing an explanation, simply by closing the web page. All information you have provided to that point will remain anonymous. Due to the nature of the anonymous data, once responses are finally submitted, they cannot be retrieved and withdrawn.

8. What will happen to the information when this study is over?

All data will be collected using a secure online service. Once the data is transferred for analysis, it will be stored on a password-protected server in the UTAS Psychology Division. Research data will be kept for at least 5 years from the date of first publication. Following this, data will be deleted.

9. How will the results of this study be published?

Relevant findings from this study will be reported in an Honours Thesis, and may also be reported in an academic journal, or at an academic conference. As participation is anonymous, no participants will be identified in any publication.

10. What if I have questions about this study?

For further information please contact Rachelle Dolzan (rsdolzan@utas.edu.au) or Dr Rachel Grieve (rachel.grieve@utas.edu.au).

This study has been approved by the Tasmanian Social Sciences Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study, please contact the Executive Officer of the HREC (Tasmania) Network on (03) 6226 7479 or email human.ethics@utas.edu.au . The Executive Officer is the person nominated to receive complaints from research participants. Please quote ethics number H0016598.

Important: At the end of the survey you will be asked to follow a separate link to provide your details (name, email address) so you can enter the draw to win one of 6 x \$50.00 gift voucher, or to receive 45 minutes of research participation (via SONA). There will be no way to connect your details to your survey responses, thus ensuring your anonymity. You must follow the link at the end of the survey to enter the prize draw or to receive research credit.

* 1. Thank you for considering participation in this study.

If you have read and understood all of the above information, and you consent to take part in this study, please click 'Yes'.

If you do not consent to taking part in this study, please click 'No' and you will exited from the survey.

Yes

No